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     (FILE 'HOME' ENTERED AT 09:52:14 ON 03 JUN 2003)

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 09:52:24 ON
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               SEA CHITOBIASE
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              1   FILE ANABSTR
             45   FILE AQUASCI
             11   FILE BIOBUSINESS
              1   FILE BIOCOMMERCE
            155   FILE BIOSIS
             30   FILE BIOTECHABS
             30   FILE BIOTECHDS
             39   FILE BIOTECHNO
             38   FILE CABA
            213   FILE CAPLUS
              6   FILE CEABA-VTB
              5   FILE CONFSCI
              7   FILE CROPU
             37   FILE DDFB
             23   FILE DGENE
             37   FILE DRUGB
             56   FILE EMBASE
             49   FILE ESBIOBASE
              2   FILE FEDRIP
              2   FILE FROSTI
             14   FILE FSTA
             38   FILE GENBANK
              8   FILE IFIPAT
             17   FILE JICST-EPLUS
              1   FILE KOSMET
             64   FILE LIFESCI
             55   FILE MEDLINE
              3   FILE NTIS
             23   FILE OCEAN
             60   FILE PASCAL
              1   FILE PHIN
              1   FILE PROMT
            133   FILE SCISEARCH
             33   FILE TOXCENTER
             51   FILE USPATFULL
              3   FILE VETB
             12   FILE WPIDS
             12   FILE WPINDEX
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     FILE 'CAPLUS, BIOSIS, SCISEARCH, LIFESCI, PASCAL, EMBASE, MEDLINE,
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L2          27 S L1 AND (PROMOTER OR REPORTER ENZYME OR REPORTER SYSTEM)
L3           8 DUP REM L2 (19 DUPLICATES REMOVED)

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L3 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:107593 CAPLUS
DOCUMENT NUMBER: 136:161320
TITLE: Use of ectoenzymes and secreted enzymes to monitor cellular proliferation
INVENTOR(S): Zyskind, Judith
PATENT ASSIGNEE(S): Elitra Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 80 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002010442	A1	20020207	WO 2000-US21049	20000802

W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: WO 2000-US21049 20000802

AB The invention concerns a method for measuring cellular proliferation in a sample comprising obtaining a sample of cells which express an ectoenzyme or a secreted enzyme, detg. the level of activity of the ectoenzyme or secreted enzyme in the sample and correlating the level of activity of the ectoenzyme or secreted enzyme with the extent of cellular proliferation. Further, secreted enzymes and ectoenzymes such as membrane-bound **chitobiase** (N,N'-diacetylchitobiase) and nucleic acids are used in combination with genetic methods to det. the impact of test compds. on cell proliferation.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:284144 CAPLUS
DOCUMENT NUMBER: 134:306156
TITLE: A cytoplasmic form of **chitobiase** as a **reporter enzyme** for the study of gene expression
INVENTOR(S): Zyskind, Judith
PATENT ASSIGNEE(S): Elitra Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001027322	A2	20010419	WO 2000-US21048	20000802
WO 2001027322	A3	20011213		

W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI,

GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-159221P P 19991013

AB The present invention relates to reporter gene constructs encoding a cytoplasmic form of **chitobiase** (N,N'-diacetylchitobiase) and methods of using these reporter gene constructs. The use of a cytoplasmic form of **chitobiase** as a **reporter enzyme** is generally applicable to the study of gene expression in organisms which do not contain N-acetyl-.beta.-D-glucosaminidases.

L3 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:34968 CAPLUS
DOCUMENT NUMBER: 132:89234
TITLE: Fungal signal peptide and their use in secreting chitinolytic proteins from transgenic plants
INVENTOR(S): Harman, Gary E.; Lorito, Matteo; Woo, Sheridan; Brants, Aigars; Earle, Elizabeth; Kubicek, Christian P.; Peterbauer, Clemens K.; Tronsmo, Arne; Klemsdahl, Sonja
PATENT ASSIGNEE(S): Cornell Research Foundation, Inc., USA
SOURCE: PCT Int. Appl., 88 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000001812	A1	20000113	WO 1999-US15242	19990706

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9948621	A1	20000124	AU 1999-48621	19990706

PRIORITY APPLN. INFO.: US 1998-91768P P 19980706
WO 1999-US15242 W 19990706

AB Signal peptides from secreted proteins of fungi can be used to direct secretion of proteins from plant cells. Transgenic plants contg. expression constructs using these signal peptides can be regenerated. Specifically, signal peptides from chitinases of Trichoderm harzianum P1 are described. The chitinases can be used to improve plant resistance to insect pests and phytopathogenic fungi. An endochitinase and a **chitobiase** from cultures of T. harzianum were shown to inhibit fungal spore germination and to inhibit growth of insect larvae. A cDNA for the endochitinase was cloned by screening an expression library with antibodies to the enzyme. Similarly, a chitinase from Gliocladium virens was also found to have fungicidal effects. The T. harzianum chitinase cDNA was placed under control of a 35S **promoter** and introduced into tobacco and potato. Transgenic plants transcribed the gene and synthesized the protein with endogenous chitinase levels increased 10-400-fold. Transgenic plants showed greatly increased resistance to challenge with the airborne pathogen Alternaria alternata with some lines being completely resistant. Similarly, they also showed increased

resistance to the soil-borne Rhizoctonia solani.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 8 SCISEARCH COPYRIGHT 2003 THOMSON ISIDUPLICATE 1
ACCESSION NUMBER: 1999:288244 SCISEARCH
THE GENUINE ARTICLE: 184QP
TITLE: Multiple genes involved in chitin degradation from the marine bacterium Pseudoalteromonas sp. strain S91
AUTHOR: Techkarnjanaruk S; Goodman A E (Reprint)
CORPORATE SOURCE: UNIV S AUSTRALIA, SCH BIOL SCI, GPO BOX 2100, ADELAIDE, SA 5001, AUSTRALIA (Reprint); UNIV S AUSTRALIA, SCH BIOL SCI, ADELAIDE, SA 5001, AUSTRALIA
COUNTRY OF AUTHOR: AUSTRALIA
SOURCE: MICROBIOLOGY-UK, (APR 1999) Vol. 145, Part 4, pp. 925-934. Publisher: SOC GENERAL MICROBIOLOGY, MARLBOROUGH HOUSE, BASINGSTOKE RD, SPENCERS WOODS, READING RG7 1AE, BERKS, ENGLAND.
ISSN: 1350-0872.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 45
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB A cluster of three closely linked chitinase genes organized in the order chiA, chiB and chiC, with the same transcriptional direction, and two unlinked genes, chiP and chiB involved in chitin degradation in Pseudoalteromnas sp. strain S91 were cloned, sequenced and characterized. The deduced amino acid sequences revealed that ChiA, ChiB and ChiC exhibited similarities to chitinases belonging to family 18 of the glycosyl hydrolases while ChiP and ChiQ belonged to family 20. ChiP and ChiQ showed different enzymic activities against fluorescent chitin analogues, but neither was able to degrade colloidal chitin. ChiA possessed chitinase activity but did not bind chitin; ChiB bound chitin but had no chitinase activity; ChiC possessed strong chitinase activity and also bound chitin. Production of ChiC in S91 appeared to be controlled by chiA expression, since insertion of a transposon into the ORF of chiA resulted in the loss of chitinase activity as well as loss of ChiC proteins in a chitinase-negative mutant. In Escherichia coli, ChiC appeared to be expressed from its own **promoter**.

L3 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 2
ACCESSION NUMBER: 1999:336322 CAPLUS
DOCUMENT NUMBER: 131:154270
TITLE: Structure of the human gene for lysosomal di-N-acetylchitobiase
AUTHOR(S): Liu, Bei; Ahmad, Wasim; Aronson, Nathan N., Jr.
CORPORATE SOURCE: Department of Biochemistry and Molecular Biology, College of Medicine, University of South Alabama, Mobile, AL, 36688, USA
SOURCE: Glycobiology (1999), 9(6), 589-593
CODEN: GLYCE3; ISSN: 0959-6658
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Chitobiase** is a lysosomal glycosidase that acts during the ordered degrdn. of asparagine-linked glycoproteins to cleave the core chitobiose unit at its reducing end. Human **chitobiase** is expressed in significant amts., while bovine **chitobiase** is produced at extremely low levels. To begin to understand this species-dependent expression, the authors detd. the gene structure of human **chitobiase**. The human **chitobiase** gene (CTBS) is approx. 20 kb comprising seven exons varying from 0.1 to 2.3 kb and six introns of 0.3 to 8 kb. The previously characterized partial bovine

chitobiase gene structure is similarly organized including exon and intron sizes and locations, but the human and bovine 5'-flanking regions differ significantly. 5'-RACE anal. of human **chitobiase** cDNA revealed only one transcriptional start site 45 bp upstream of the ATG translation initiation site. Computer anal. of the human **chitobiase** gene 5'-flanking region shows characteristics of a typical housekeeping gene. The putative **promoter** region contains a distal TATA box, and there are several Sp-1 and AP-2 cis elements. In contrast, bovine **chitobiase** gene 5'-flanking region shows totally different structures and may contain several silencers. A partial art-2 segment which is an artiodactyl Alu-like repetitive sequence, is also present. These evolutionary differences in the 5'-flanking region of the **chitobiase** genes from human and bovine could account for the widely varied expression levels of the hydrolase within these two species.

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 3
ACCESSION NUMBER: 1999:3059 CAPLUS
DOCUMENT NUMBER: 130:149244
TITLE: **Chitobiase**, a new **reporter enzyme**
AUTHOR(S): Kalabat, D. Y.; Froelich, J. M.; Phuong, T. K.; Forsyth, R. A.; Newman, V. G.; Zyskind, J. W.
CORPORATE SOURCE: San Diego State University, San Diego, CA, USA
SOURCE: BioTechniques (1998), 25(6), 1030-1035
CODEN: BTNQDO; ISSN: 0736-6205
PUBLISHER: Eaton Publishing Co.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB N,N'-diacetylchitobiase from the marine organism Vibrio harveyi is a highly stable **reporter enzyme** for gene fusions. This enzyme hydrolyzes the disaccharide chitobiose to N-acetylglucosamine. The advantages of the reporter gene encoding **chitobiase** (chb) are: (i) that **chitobiase** and N-acetyl-.beta.-D-glucosaminidase activities are missing in E. coli strains, (ii) **chitobiase** can be monitored using blue/white colony indicator plates and (iii) convenient substrates for this enzyme are com. available. The use of **chitobiase** as a **reporter enzyme** is generally applicable to the study of gene expression in those bacteria that do not contain N-acetyl-.beta.-D-glucosaminidases. The authors constructed plasmid vectors contg. a multiple cloning site for producing in-frame fusions to **chitobiase**, the attP of .lambda. phage for movement into the bacterial chromosome for single-copy anal., the gene encoding chloramphenicol acetyltransferase (cat), the pACYC184 origin of replication and the rrnBt1t2 terminator region upstream of the chb gene to prevent read-through from other **promoters**. In-frame fusions between the dnaA gene and chb were moved to the chromosome by site-specific recombination with the chromosomal attB site. These single-copy fusions were assayed for **chitobiase** to examine the effects of a deletion in the dnaA regulatory region.

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 4
ACCESSION NUMBER: 1990:231809 CAPLUS
DOCUMENT NUMBER: 112:231809
TITLE: N,N'-Diacetylchitobiase of Vibrio harveyi. Primary structure, processing, and evolutionary relationships
AUTHOR(S): Soto-Gil, Rafael W.; Zyskind, Judith W.
CORPORATE SOURCE: Mol. Biol. Inst., San Diego State Univ., San Diego, CA, 92182, USA
SOURCE: Journal of Biological Chemistry (1989), 264(25),

14778-83
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The nucleotide sequence of the gene chb, encoding the outer membrane protein, N,N'-diacetylchitobiase (**chitobiase**), of the marine bacterium, Vibrio harveyi, was detd. The amino acid sequence of prechitobiase was derived from the nucleotide sequence. Prechitobiase has a mol. mass of 97,771 Da and consists of 883 amino acid residues. A characteristic signal peptide is at the N-terminus whose removal is inhibited by the antibiotic, globomycin, suggesting that mature **chitobiase** is a lipoprotein with a maturation pathway similar to that of the Escherichia coli major outer membrane lipoprotein. A perfect homol. of 6 amino acids at the processing and modification region of the outer membrane lipoprotein of E. coli was found with amino acids 15-19 of the deduced prechitobiase protein sequence. **Chitobiase** shares similarities and possibly common ancestry with the .alpha.-chain of the human .beta.-hexosaminidase. A comparison of the amino acid sequences of **chitobiase** and the .alpha.-chain of .beta.-hexosaminidase gave a highly significant alignment score of 19.1 std. deviation units above a mean randomized alignment score. Primer extension anal. of the **promoter** region revealed 3 transcription initiation sites used by E. coli cells harboring the chb gene, 2 of which were also evident in V. harveyi cells.

L3 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 5
ACCESSION NUMBER: 1986:492435 CAPLUS
DOCUMENT NUMBER: 105:92435
TITLE: Chitinase determinants of Vibrio vulnificus: gene cloning and applications of a chitinase probe
AUTHOR(S): Wortman, A. T.; Somerville, C. C.; Colwell, R. R.
CORPORATE SOURCE: Dep. Microbiol., Univ. Maryland, College Park, MD, 20742, USA
SOURCE: Applied and Environmental Microbiology (1986), 52(1), 142-5
CODEN: AEMIDF; ISSN: 0099-2240
DOCUMENT TYPE: Journal
LANGUAGE: English

AB To initiate study of the genetic control of chitinolytic activity in vibrios, the **chitobiase** [9012-33-3] gene was isolated by cloning chromosomal DNA prepd. from V. vulnificus. Chimeric plasmids were constructed from Sau3A I partial digests of chromosomal DNA prepd. by ligating 5-15-kilobase fragments into the BamHI site, i.e., in the tetracycline-resistance (Tcr) gene, of pBR322 (AmrTcr). The resulting plasmids were transformed into Escherichia coli DH1. **Chitobiase** activity of the insert-bearing clones was detected by using a chromogenic substrate, p-nitrophenyl-N-acetyl-.beta.,D-glucosaminide, and confirmed by the appearance of a fluorescent end product from the hydrolysis of 4-methylumbelliferyl-.beta.,D-N-N'-diacetylchitiobiose. Endochitinase activity was demonstrated by liberation of water-sol. products produced by the degrdn. of [3H]chitin. Transformation of E. coli Y10R (lacY) with plasmids from chitinase-pos. clones restored the lactose-pos. phenotype, suggesting the presence of a permease assocd. with chitinase activity. Phys. mapping of plasmids contg. the chitinase determinants indicate that transcription of these genes in E. coli may be initiated at a V. vulnificus **promoter**.